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GAMMON GAMBLERTM

User's Guide



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Introduction

Gammon Gambler turns your TRS-80 into a tireless, skillful backgammon player. Whether you are new to the game or an expert sharpening your skill for that trip to Monte Carlo, Gammon Gambler is a challenging adversary at your level. Look at Gammon Gambler's features:

- Plays a fast, smart game.
- Uses the doubling cube, adding an extra dimension to the game.
- Can play at 10 different levels of skill, from beginner to expert.
- Plays by the standard U.S. tournament rules.
- Checks the legality of your moves.
- Graphically displays the backgammon board and pieces, with the option to display the numbers of the points.
- You enter the starting point of a move—the computer calculates the ending point.
- You can take back a move to correct a mistake.

If you are new to backgammon, the game is easy to learn and deceptively simple. The basic rules of backgammon are listed in Appendix A of this manual. There are many books available about this classic game if you want to learn more about its subtle strategy.

System Requirements

The Gammon Gambler program is designed for the TRS-80 16K Level II Model I and Model III which consists of the following equipment:

Model I

- The TRS-80 16K Computer with Level II BASIC
- A TRS-80 Cassette Recorder

Model III

- The TRS-80 Model III with Model III BASIC
- A TRS-80 Cassette Recorder

Before you begin loading the Gammon Gambler program, read the pamphlet entitled "Important Information for Cassette Users."

Loading the Program

Make sure your cassette program tape is rewound, and the PLAY key is down on the recorder.

The screen will show: You type:

Cass? (Model III only) Press

Memory Size? Press ENTER

READY S T E M and press ENTER

*? B G and press ENTER

The tape will start and after several seconds, two asterisks will appear m the upper right corner of the screen. The asterisk on the right will be slowly flashing as the program is loading. Loading can take up to 5 minutes. When the program is loaded, you can answer the second *? prompt.

The screen will show: You type:

When the Backgammon board appears on the screen, the program is loaded. Press the STOP key on your recorder and rewind the tape.

Troubleshooting: If the volume is too high or too low, a C may appear in the upper right corner, or the asterisks may not appear at all. Adjust the volume, rewind the tape, and try loading again.

The program has been recorded twice on the tape, so if a second try doesn't work, turn your computer off and try the loading procedure again, but do not rewind the tape. Start the tape playing at the point it stopped on your previous attempts to load.

Once you have successfully loaded the Gammon Gambler, you might write the proper volume setting on the tape label for future use.

The Score and Skill Level

Each time you load the Gammon Gambler game, the score is set at zero-zero and the skill level at 9, the most difficult. At the start of each new game, RESET? is displayed at the bottom of the backgammon board. (This question concerns the score and skill level, and has nothing to do with the TRS-80's RESET button.)

To change the skill level, press Y (Yes) in response to RESET? The prompt, LEVEL? now appears. Now set the skill level by typing in a number from 0 (beginner) to 9 (expert). To find your own level of skill, enter 3 as the level and, as you start each new game, raise or lower the level until you are winning about 50 percent of the time. Pressing the / (slash) key will cause the current skill level to be displayed.

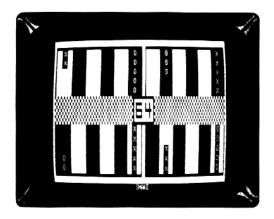
To reset the score to zero-zero, answer \(\) to the RESET? prompt. The score will automatically change to zero-zero. When the prompt, LEVEL?, appears, type in the skill level you want. The score will be reset whether or not you change the skill level.

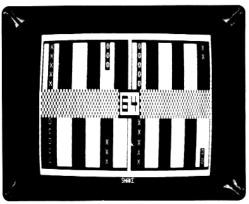
To start a new game without changing the skill level or the beginning score, press the $\boxed{\mathbb{N}}$ key. The score will be set at the ending score for the previous game.

There is no noticeable time difference for the computer to plan its moves at the various levels of play. At the lower levels it will tend to attack less, to leave more stones open to being hit, and generally place its stones less wisely.

The Board

After you've responded to RESET?, you'll see the stones placed on the board. They will appear in one of the two possible starting positions used in backgammon. The photographs below show the two starting positions as they will appear on your TRS-80's screen. Look at the placement of the stones, not whether they are X's or O's.





The computer randomly chooses which starting position to use for a particular game.

To locate your stones and determine whether they are X's or O's, look at the upper half of the board. At either the rightmost or leftmost edge, there is one point with only two stones on it. The two stones are on the point number 01. They are your stones.

Your portion of the board will always be the bottom half; your TRS-80 will always have the upper half. The points are numbered from 01 to 12 on the upper half of the board, and from 13 to 24 on your half. The direction of numbering depends on the starting position of the stones. Appendix A contains more explanation and illustrates the way the points are numbered.

The First Roll

To determine who moves first, you and your TRS-80 roll one die each. The one rolling the high die gets the first move. In this computer game, you will roll your TRS-80's die as well as your own for this determining throw. The computer prompts you to make the first roll by printing the instruction, SHAKE, at the bottom of the board. To shake the dice, press any character key.

You will see one die appear on the right side of the board and one on the left side. Your die will be on the right. If the roll is a tie, the cast doesn't count and the computer prompts you to SHAKE the dice again.

When the computer has the higher number, the dice are moved to the left side. It will automatically take its turn, playing the numbers shown on the initial cast of the dice. Any stone that is moved will flash briefly as it leaves a point and then flash again on the landing point. You will then be prompted to SHAKE the dice again for your turn.

When you roll the high die, the dice are moved to the right side of the board. At the bottom of the board you will see a new prompt, DIE #1. The computer will wait for you to tell it which stone to move. How to enter a move is explained in the Rolling Stones section, but before getting to that, you should know about the handy SHIFT key.

Displaying Point Numbers: The Shift Key

This command causes the point numbers to be displayed on the board for the rest of your turn that you are currently playing. To give the command, press the SHIFT key (left SHIFT for the Model III). You can enter this command anytime you see a prompt at the bottom of the board. The numbers will appear and remain on the board for the duration of your turn.

Rolling Stones

Your dice are always shown on the right side of the board. You read them from left to right. The die on the left is DIE #1 and the die on the right is DIE #2. When you roll the dice, the higher number is always displayed on the left, as DIE #1.

To make a move, decide which stone you want to move for the value shown on the die on the left. At the prompt for DIE #1, enter the number of the point that the stone is sitting on. The stone will be moved the same number of points as the number on the first die.

For example, suppose your die on the left shows a four and you want to move your stone positioned on point 01. You would enter [2] 1 as the input for DIE #1 and you would see the stone moved to point 05. Note that when you specify the points 1 through 9, you must enter them with leading zeros, such as 01, 07, 09.

The computer will check the move you want to make. If the move you entered is not legal, the prompt for the die number entry will remain, waiting for you to enter a valid move for that die. When the move is legal, you will see the stone flash on the point it leaves and then flash again on its landing point. The prompt for DIE #2 will appear and wait for you to enter a move for the die on the right. In the case when you have thrown doubles and get four moves, you will be prompted to make entries for DIE #3 and DIE #4.

When it's impossible for you to make a move for either die, CAN'T is displayed and your TRS-80 rolls the dice for its turn. Your TRS-80 displays the same message when it is in the same situation and prompts you to roll for your turn.

At the end of your turn you will see the question 0K?. Answer with \boxed{N} (No) to take back your moves and replay the whole throw. Answer with \boxed{Y} (Yes) to end your turn. Your TRS-80 will then roll its dice and make its moves.

Reversing the Dice Display: The X Command

Should you want to make your first move using the smaller number, press \(\subseteq \) and the dice will reverse with the smaller die on the left, as DIE #1.

Taking Back Your Move: The N Command

Computers are very agreeable playing partners. Let's say you enter [10] 1 at the prompt for DIE #1. Assume it's a legal move and the stone is placed on the ending point. Now hindsight makes you wish you had moved the stone on the point 12 instead.

To replay that move, press N as the input to DIE #2 and you will see the board returned to the state it was in before you moved for DIE #1. You can now enter 1 2 for DIE #1.

When you have thrown doubles and can make four moves on your turn, pressing $\boxed{\mathbb{N}}$ at the prompt for the second, third, and forth die will restore the board and let you start with DIE #1 again.

You are asked 0K? to end your turn after you have moved for each number shown on the dice. Entering \boxed{N} in response will return all your stones to their positions at the start of your turn and you can replay the whole throw.

Leaving The Bar: The B Command

When a blot is hit, it appears on the bar on the opponent's half of the board. (See Appendix A for more about blots and the bar.) Press

in reply to DIE #1 to enter your stone from the bar. If you must use the smaller number to enter, the computer will automatically reverse the dice when you press

and then enter the stone. When you can use one die to leave the bar, but can't move for the other die, your TRS-80 will display the OK? prompt.

If there are no open points corresponding to the numbers on the dice, then the computer displays CAN'T at the bottom of the board and initiates the next roll.

Doubling The Stakes: The D, A, and R Commands

As in actual play, the doubling cube is shown in the middle of the board at the start of the game.

To offer a double to your TRS-80, enter when you are prompted to shake the dice. The program will first check that you actually own the cube. If you do own it, and the TRS-80 accepts the double, the doubling cube appears on the left side of the backgammon board with the new stakes displayed. If your TRS-80 rejects the offer, you win the game at the previous stakes.

Pressing when you don't own the cube will simply roll the dice.

DOUBLE appears on the screen when your TRS-80 offers you a double. You can press at to accept it and keep the game going at the higher stakes, or press to reject the offer and forfeit the game at the previous stakes. If you reject the double, the score will be displayed for about 10 seconds and then the board for a new game is drawn on the screen.

Bearing Off

You can begin bearing off when all your stones are within your home board (points 19 to 24). If the number you roll is higher than any number needed to bear off a stone, then you must apply it to the stone farthest from point 24.

Scoring

The game ends and the score is displayed briefly as soon as one of you has borne off all your stones.

For instance, if a game had started with the score set at zero-zero, the stakes had been doubled once, and you beat your TRS-80 in a gammon, you would see:

HUMAN 4

COMPUTER 0

GAMMON

While your TRS-80 won't heartily congratulate you, neither will it smirk if it wins.

The game is worth one point to the winner if neither opponent has doubled and the loser has borne off at least one stone. When the game has been doubled and possibly redoubled, the points won are the number shown on the face of the doubling cube.

The game is a "gammon" when all the winner's stones are borne off before the opponent has borne off any at all. It is worth twice the number of points of a regular game.

The "backgammon" is worth three times the number of points of a regular game and occurs when all the winner's stones are borne off before the opponent bears off any and while the opponent still has at least one stone in the winner's home board.

Quitting The Game: The BREAK Key

To quit a game in progress, press the key marked BREAK. The prompt QUIT? will appear. Type Y to leave the game. The prompt RESET? will appear. Answer the RESET? and LEVEL? prompts appropriately to start a new game. It will draw a fresh board to start a new game. You may press N if you wish to continue the game.

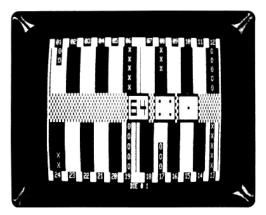
Leaving the Program: The RESET Button

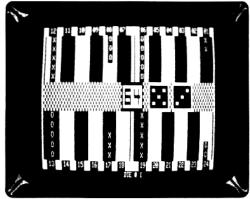
To leave the Gammon Gambler program, press the **RESET** button. You may then use your TRS-80 for something else. If you want to play Gammon Gambler again, you will have to load it into the computer from cassette.

Appendix A: Rules of Backgammon

The game consists of two players, each with 15 "stones" (also called pieces, men, or checkers), and a backgammon board. The object of the game is for each player to move his or her stones around and then off the board. The winner is the first player to remove all his or her stones from the board.

The Board: On the board there are 24 triangular-shaped "points" of alternating color, separated into four quadrants. (The points on your TRS-80's board are rectangular.) The points are numbered from 01 to 24 in either a clockwise or counterclockwise direction, depending on the starting position of the stones. There are two ways the stones may be set up on the board. For illustration, the photographs below show the numbers identifying the points.





Direction of Movement: You will move your stones in the same direction the points are numbered. To tell the direction of numbering and which stones are yours, look at the upper half of the board and locate the point with only two stones on it. Note whether they are X's or O's. Those are your stones, and they are on the point numbered 01. If they are on the left-most point, the points are numbered in a clockwise direction and you will move your stones in that direction. If they are on the rightmost point, numbering and movement are in the opposite direction.

The horizontal divider separates the board into the players' halves. You will always have the bottom half. Each player's half of the board is divided into an outer board and an inner or "home" board. On your half of the board, your outer board is numbered from 13 to 18, and your home board is made up of points 19 to 24. Moving the stones off the board is called "bearing off." All of a player s stones must be within that player's home board before she or he can begin to move them off the board.

Moving: To start the game, each player rolls one die. The one with the higher number moves first, using the numbers shown on the two dice. Ties are re-rolled. Thereafter, the players alternate turns and use two dice each.

A player must always move his or her stones forward (towards that player's home board in the direction the points are numbered.) A stone is moved forward the same number of points as the number showing on the die. For example, if you roll a two and a five, one move is for two points and the other is for five points. The number on each die is a separate move—the dice are never added together. Doubles (both dice showing the same number) are good for four moves of that number

A separate stone may be moved for each die or a single stone can be moved for the whole throw, but it must make a separate move for each number on the dice.

A player must make a move for each number showing on his or her dice. If a player can move for either one or the other of the dice, but not both of them, then the remaining die is forfeited.

A player can land his or her stones on any "open" point. An open point is one that is vacant, or has only that player's stones on it, or is occupied by only one of the opponent's stones. There is no limit to the number of his or her own stones a player can put on one point.

A stone cannot land on a "blocked" point—one which is occupied by two or more of the other player's stones.

Blots: Any single stone on a point is called a "blot". A player "hits" an opponent's blot by landing his or her stone on the same point.

The Bar: The blot that is hit is placed on the area which divides the board vertically, called the "bar". When a player has stones on the bar, he or she cannot move until they are all "entered" from the bar. To do this, the player must roll a number that corresponds to the number of an open point in the opponent's home board. Only one stone at a time may be entered for each number that corresponds to the open point. Numbers that can't be used are forfeited. When all the player's stones have been entered, normal forward movement can resume.

Bearing Off: All of a player's stones must be in his or her home board (points 19 to 24) before he or she can start removing them from the board, called "bearing off". The stones are moved the same number of points as the numbers on the dice. If the number on a die is higher than the number of points any stone needs to bear off, then that number is used to bear off the stone farthest from point 24. For example, if a player has borne off all stones except for one on point 21 and one on point 23 and the dice show 6 and 1, the 6 is used to bear off the stone on point 21. If a player is bearing off and one of his or her blots is hit, that stone must be entered from the bar and brought around to the home board before the player can continue bearing off.

Doubling: The large "doubling cube" is used to double the stakes of the game. It is initially placed in the middle of the board with the number 64 facing up and the game is worth one point to the winner. Either player may offer to double first, but must do so before rolling the dice for his or her turn. The opponent may accept the offer and the stakes are doubled. The player who accepts the offer of a double is said to "own the cube" and is the only player who can offer to double the stakes again. With the computer's backgammon board, the cube is displayed on the left when the TRS-80 owns it and on the right when you own it.

Rejection of the offer of a double ends the game at the previous stakes in favor of the player who offered to double.

Appendix B: Summary of Commands

PROMPT: ENTER: ACTION:

RESET? Sets score to zero-zero and lets you

change the skill level.

N Sets starting score at last game's score

and keeps same skill level.

SHIFT Point numbers drawn on board, sets

starting score at last game's score, and keeps the skill level of the last game.

LEVEL? Sets skill level from beginner (0) to

expert (9). Score is reset to zero-zero.

SHAKE any key Rolls the dice.

(except BREAK)

Offers double to the TRS-80.

SHIFT Point numbers are drawn on the board

and dice are rolled. (Use left SHIFT)

for Model III.)

DIE# point no. Moves the stone from that point

according to the number on the die. Leading zeros must be entered (e.g.,

Ø 3).

N Takes back all moves made for the turn.

 \overline{X} Reverses the dice display.

B Enters a stone from the bar.

SHIFT Point numbers are drawn on the board.

(Use left SHIFT for Model III)

0K?	Y	Ends your turn and starts computer's turn.
	N	Takes back all moves and you can replay the whole throw.
DOUBLE	A	Accepts computer's offer of double.
	R	Rejects computer's offer of double.
any prompt	BREAK	Quits present game and draws new board.



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